

TH
2398
W5

UC-NRLF

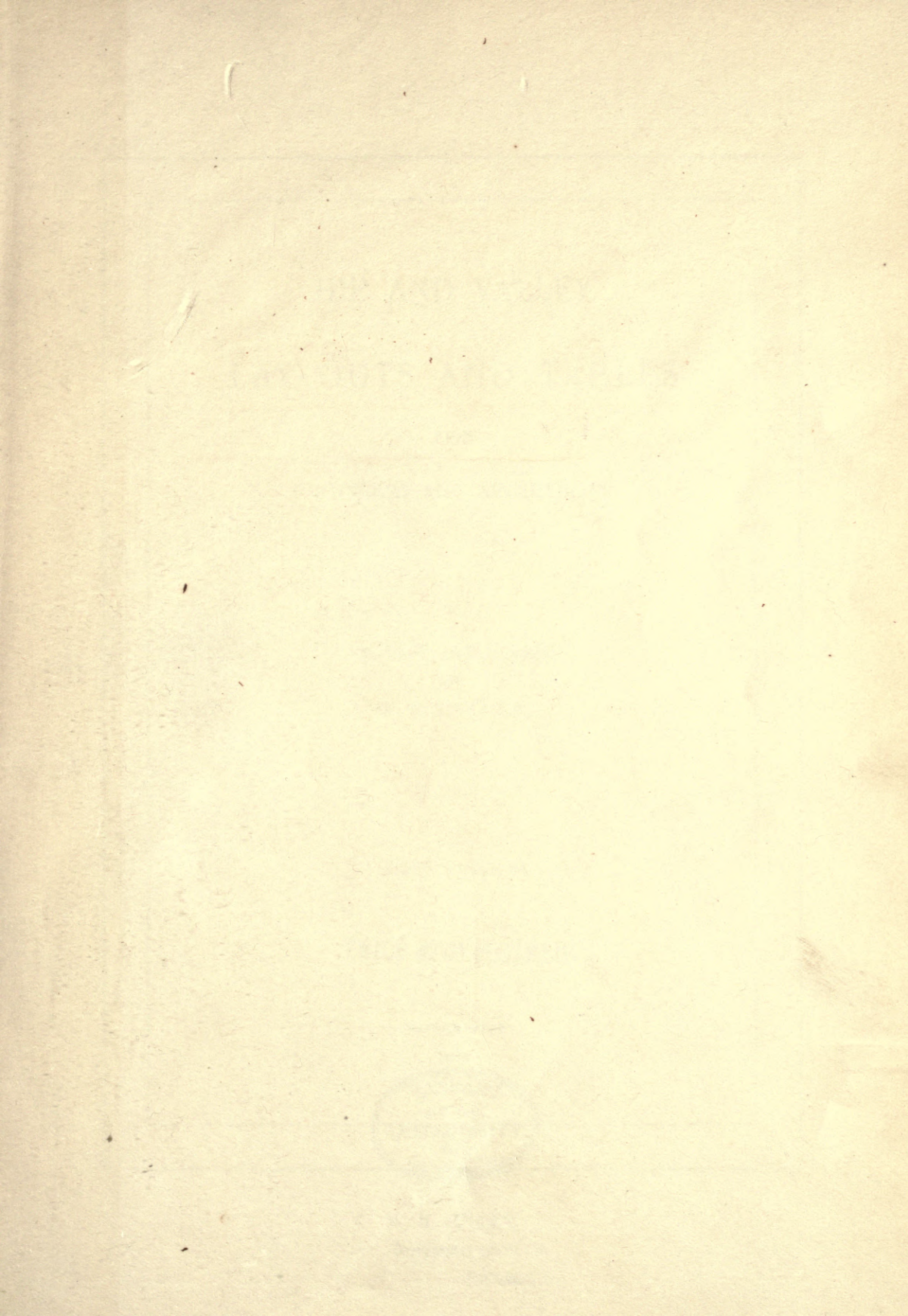


QB 662 564

PLATES AND TABLES
—
HIP AND VALLEY WORK

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA.

Class





HIP AND VALLEY
LAY-OUTS AND TABLES
FOR
ENGINEERS AND ARCHITECTS

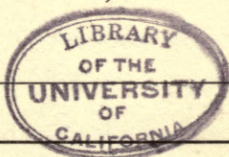
BY
A. H. T. WILLIAMS
AND
W. H. CULLERS

FIRST EDITION

PRICE \$2.00 POSTPAID

COPYRIGHTED

1910



W. H. CULLER
Northwest Steel Co.
Portland, O.

T H 2398
W 5

GENERAL



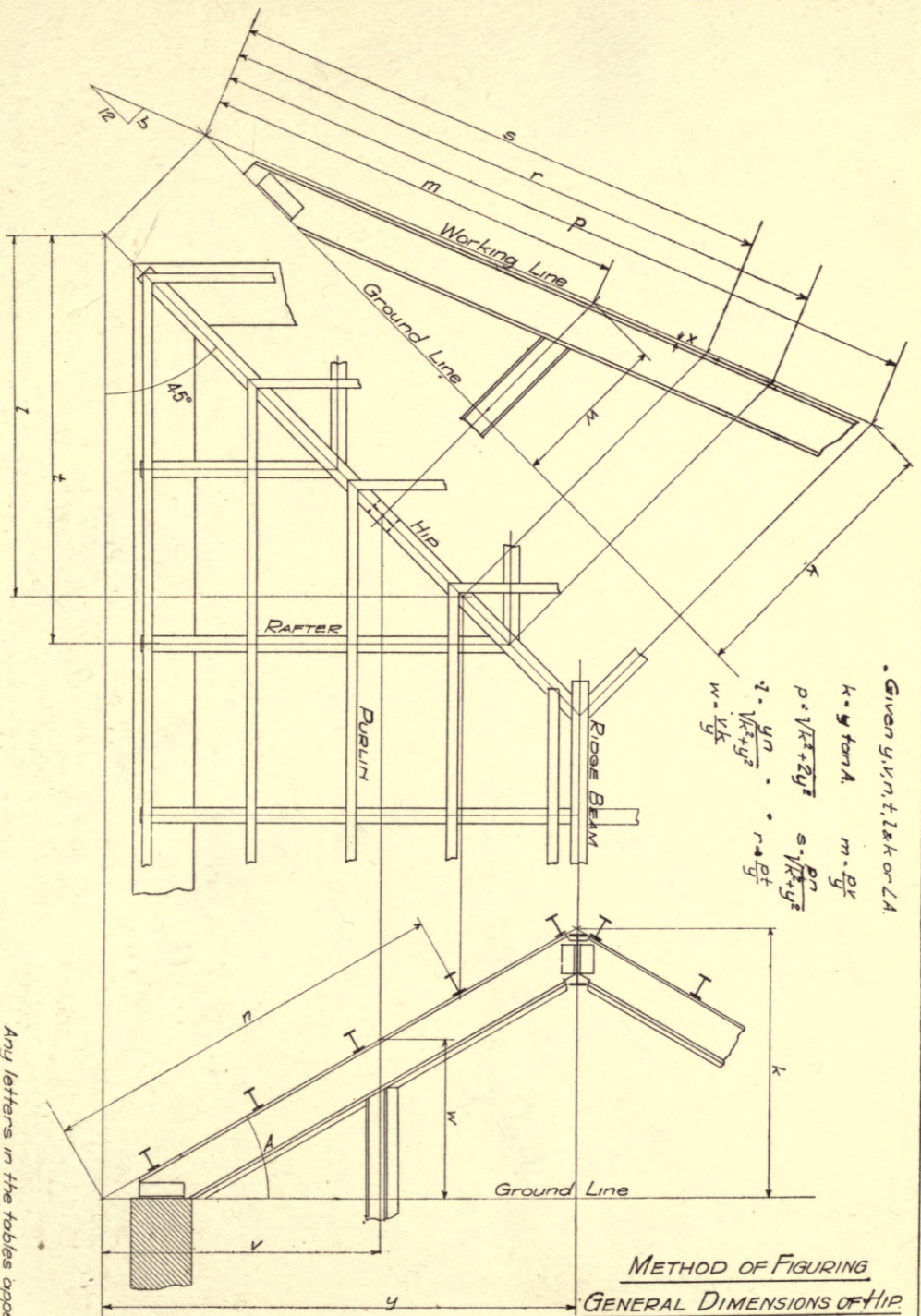
PREFACE

Portland, Oregon, August 1st, 1910.

In the absence of any definite information relative to hip and valley work, and knowing the great difficulty with which many experienced as well as student draftsmen attack this special line of structural work, the authors submit these plates and tables to the structural draftsmen. We have included at least ninety per cent. of the problems usually met with in this class of work and believe we have made it possible for the ordinary draftsman to easily lay out and detail the greater majority of connections that confront them in roof work.

The first plate showing the method of getting the general figures necessary for detailing, while apparently simple, has often been the downfall of the beginner in hip work, and as a proper start is the most important feature of any kind of work, we believe that this drawing is very necessary. The remainder of the plates are so laid out that the draftsman in carefully following the lines of projections will have no difficulty in meeting all the conditions that arise in these complex problems.

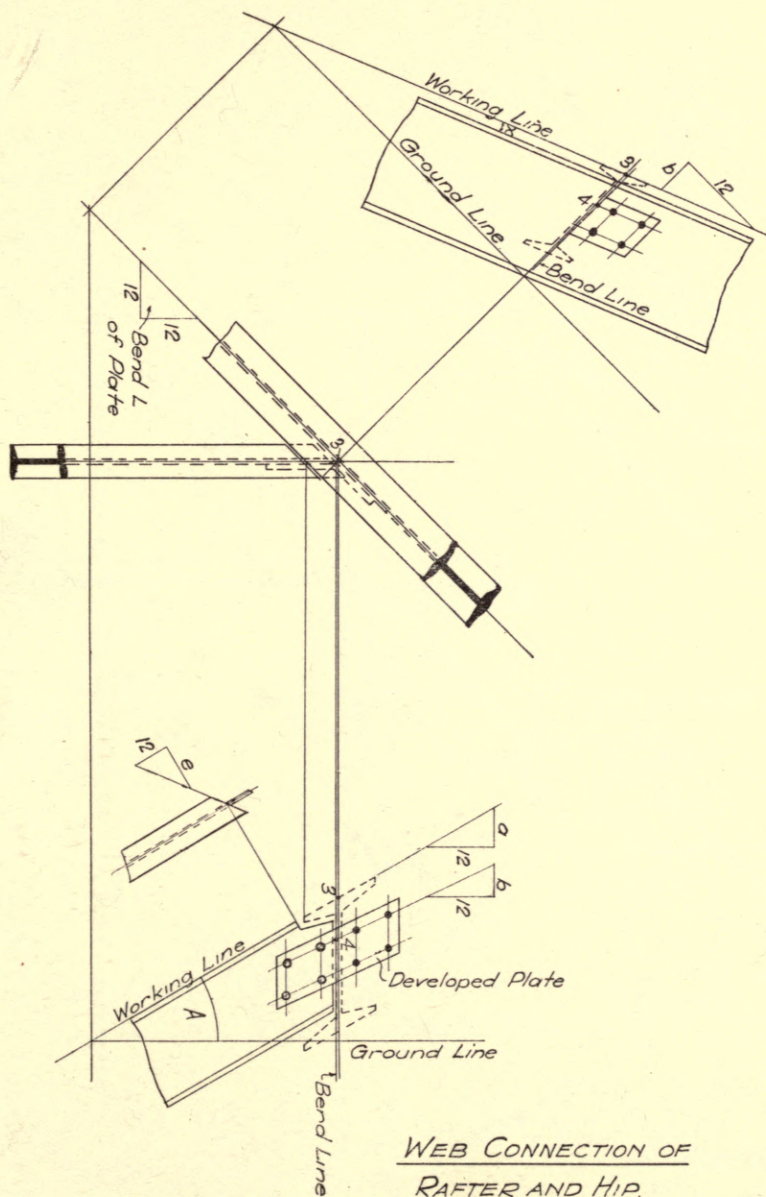
As the purlin connection, shown on Plate 2, normal to the roof line and flush on top, is most generally met with, we have taken it as standard and have tabulated all the necessary bevels for detailing this connection for a roof starting with a bevel of three inches in twelve and ending with eight and fifteen-sixteenths inches in twelve so that this class of joint may be detailed without the laborious work necessary in finding the bevels, thereby reducing the layout work to a minimum.



METHOD OF FIGURING
 GENERAL DIMENSIONS OF HIP

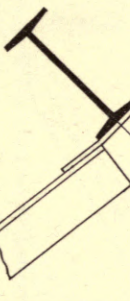
Any letters in the tables appearing on this plate have reference to those tables.

Any letters in the tables appearing on this plate have reference to those tables.

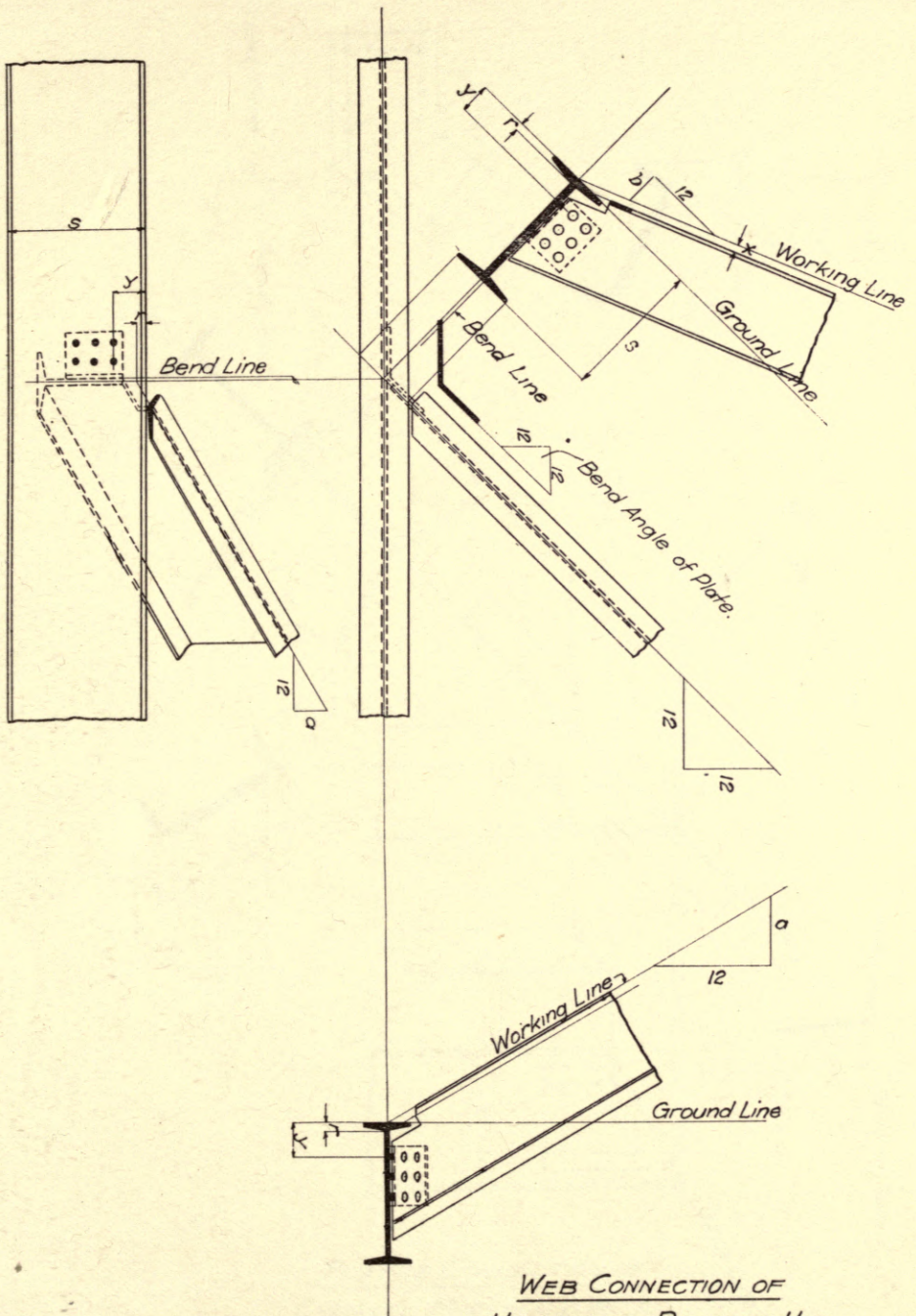


WEB CONNECTION OF
RAFTER AND HIP

Bend L of Plate



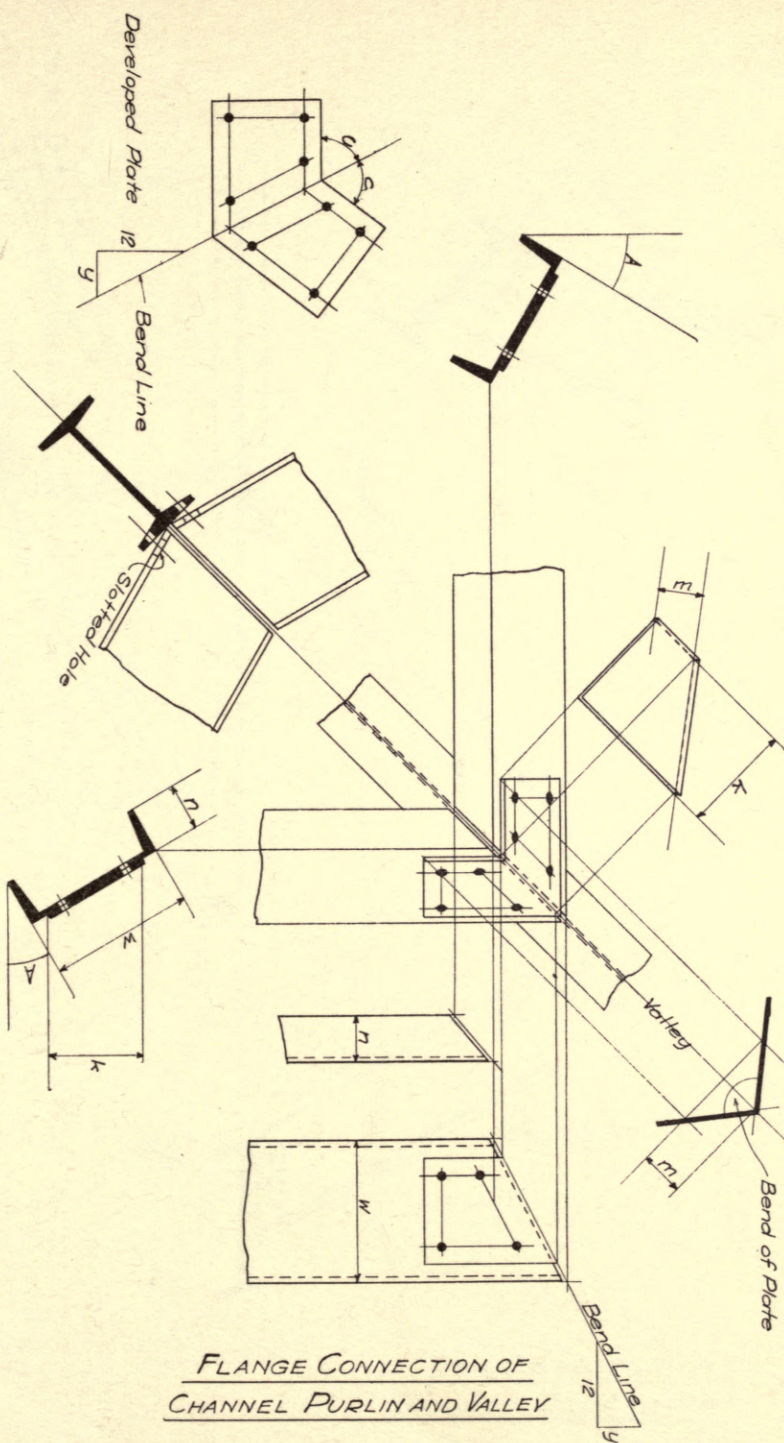
TEE PURLIN AND HIP



WEB CONNECTION OF
HORIZONTAL BEAM TO HIP

Any letters in the tables appearing on this plate have reference to those tables

Any letters in the tables appearing on this plate have reference to those tables



FLANGE CONNECTION OF
CHANNEL PURLIN AND VALLEY

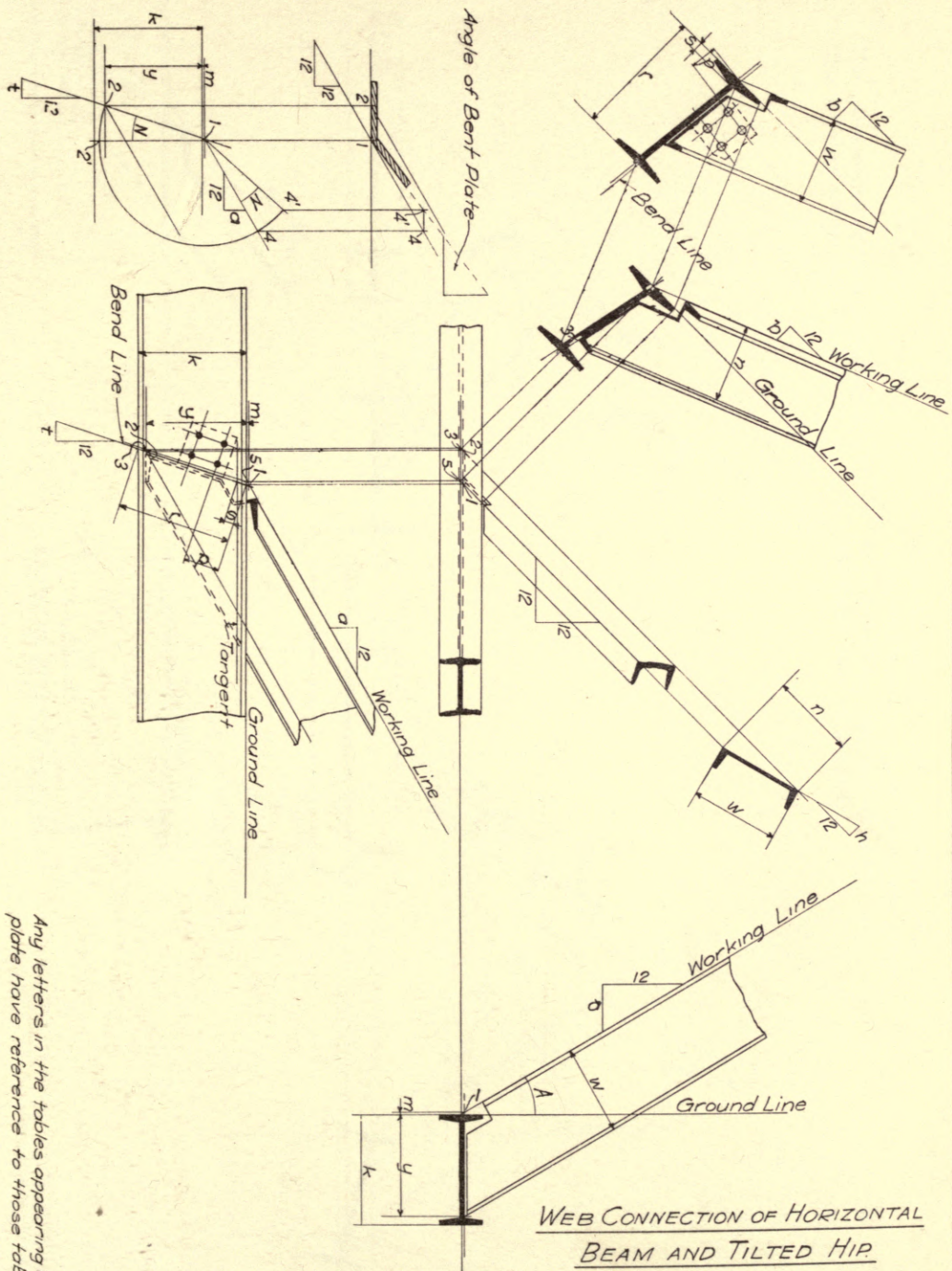
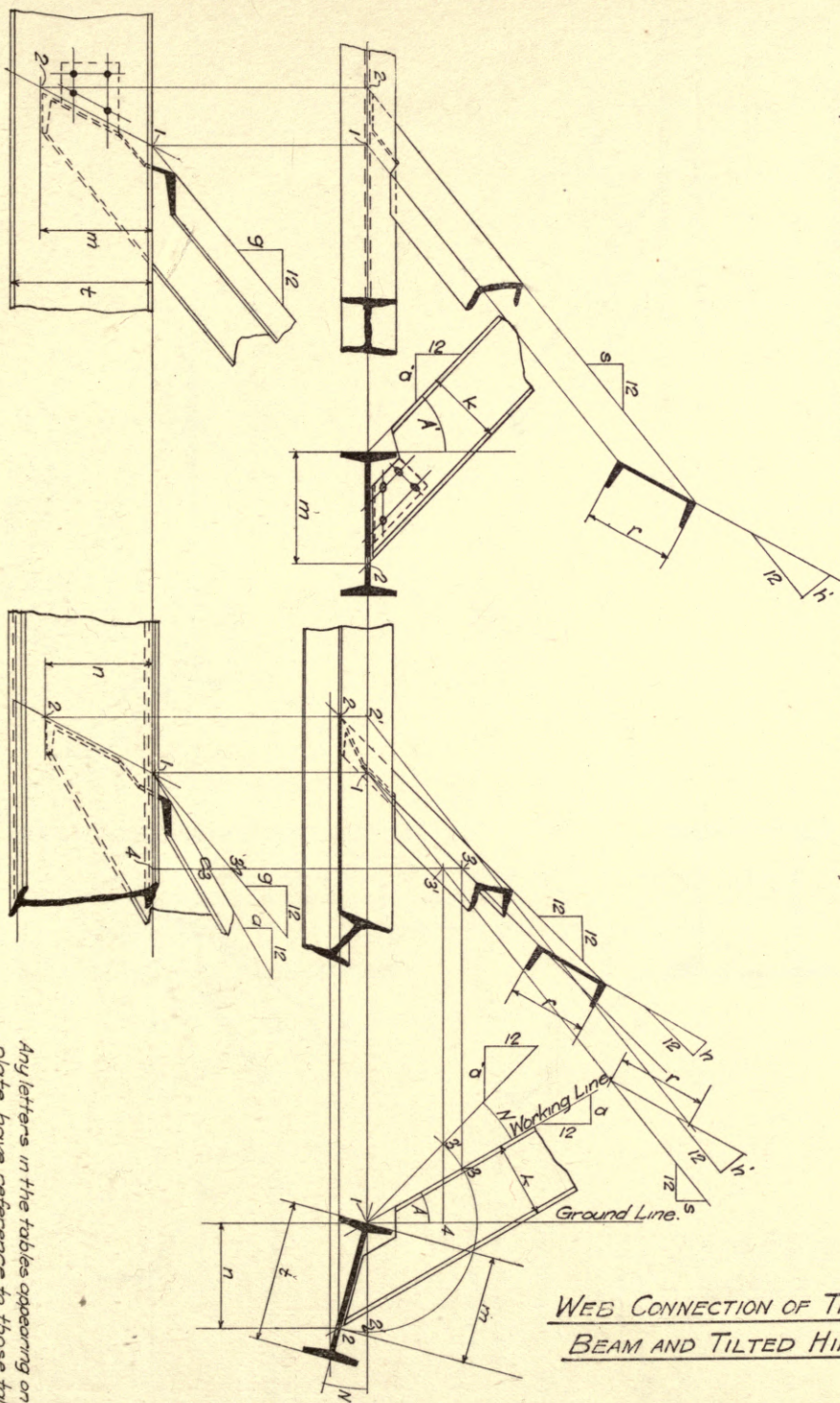


PLATE 10.

The completion of this problem is the same as shown on Plate 10.

Revolve about point 1, as shown below, to eliminate angle N and bring the beam to the vertical position as shown on left hand side of drawing.



WEB CONNECTION OF TILTED
BEAM AND TILTED HIP.

Any letters in the tables appearing on this plate have reference to those tables

a	Angle A			b	c	d	e	f	g	h	
	D	M	S								
3	14	2	10	2 1/8	2	2 15/16	11 5/8	11 5/16	11 1/2	2 1/16	
1/16	14	19	0	2 3/16	2 1/16	2 15/16	11 5/8	11 5/16	11 1/2	2 1/8	
1/8	14	35	48	2 3/16	2 1/16	3	11 5/8	11 1/4	1 9/16	2 3/16	
3/16	14	52	32	2 1/4	2 1/8	3 1/16	11 5/8	11 1/4	1 9/16	2 3/16	
1/4	15	9	15	2 5/16	2 1/8	3 1/8	11 9/16	11 3/16	1 5/8	2 1/4	
5/16	15	25	54	2 5/16	2 3/16	3 3/16	11 9/16	11 3/16	1 5/8	2 5/16	
3/8	15	42	31	2 3/8	2 3/16	3 1/4	11 9/16	11 1/8	1 11/16	2 5/16	
7/16	15	59	5	2 7/16	2 1/4	3 5/16	11 9/16	11 1/8	1 11/16	2 3/8	
3 1/2	16	15	37	2 1/2	2 1/4	3 3/8	11 1/2	11 1/16	1 3/4	2 7/16	
9/16	16	32	5	2 1/2	2 5/16	3 7/16	11 1/2	11 1/16	1 3/4	2 7/16	
5/8	16	48	31	2 9/16	2 3/8	3 1/2	11 1/2	11 1/16	1 13/16	2 1/2	
11/16	17	4	54	2 5/8	2 3/8	3 1/2	11 1/2	11	1 13/16	2 9/16	
3/4	17	21	14	2 5/8	2 7/16	3 9/16	11 7/16	11	1 7/8	2 9/16	
13/16	17	37	32	2 11/16	2 7/16	3 5/8	11 7/16	10 15/16	1 7/8	2 5/8	
7/8	17	53	46	2 3/4	2 1/2	3 11/16	11 7/16	10 15/16	1 15/16	2 11/16	
15/16	18	9	57	2 13/16	2 1/2	3 3/4	11 3/8	10 7/8	1 15/16	2 11/16	
4	18	26	6	2 13/16	2 9/16	3 13/16	11 3/8	10 7/8	2	2 3/4	
1/16	18	42	11	2 7/8	2 9/16	3 7/8	11 3/8	10 13/16	2	2 13/16	
1/8	18	58	13	2 15/16	2 5/8	3 7/8	11 3/8	10 13/16	2 1/16	2 13/16	
3/16	19	14	12	2 15/16	2 5/8	3 15/16	11 5/16	10 3/4	2 1/16	2 7/8	
1/4	19	30	9	3	2 11/16	4	11 5/16	10 3/4	2 1/8	2 15/16	
5/16	19	46	2	3 1/16	2 11/16	4 1/16	11 5/16	10 11/16	2 1/8	2 15/16	
3/8	20	1	52	3 1/16	2 3/4	4 1/8	11 1/4	10 11/16	2 3/16	3	
7/16	20	17	30	3 1/8	2 3/4	4 3/16	11 1/4	10 5/8	2 3/16	3 1/16	
4 1/2	20	33	22	3 3/16	2 13/16	4 3/16	11 1/4	10 5/8	2 1/4	3 1/16	
9/16	20	49	2	3 1/4	2 13/16	4 1/4	11 3/16	10 9/16	2 1/4	3 1/8	
5/8	21	4	39	3 1/4	2 7/8	4 5/16	11 3/16	10 9/16	2 5/16	3 3/16	
11/16	21	20	13	3 5/16	2 7/8	4 3/8	11 3/16	10 1/2	2 5/16	3 3/16	
3/4	21	35	43	3 3/8	2 7/8	4 7/16	11 3/16	10 1/2	2 3/8	3 1/4	
13/16	21	51	10	3 3/8	2 15/16	4 7/16	11 1/8	10 7/16	2 3/8	3 1/4	
7/8	22	6	34	3 7/16	2 15/16	4 1/2	11 1/8	10 3/8	2 7/16	3 5/16	
15/16	22	21	54	3 1/2	3	4 9/16	11 1/8	10 3/8	2 7/16	3 3/8	

a	Angle A			b	c	d	e	f	g	h	
5	D 22	M 37	S 12	3 $\frac{9}{16}$	3	4 $\frac{5}{8}$	11 $\frac{1}{16}$	10 $\frac{5}{16}$	2 $\frac{1}{2}$	3 $\frac{3}{8}$	
$\frac{1}{16}$	22	52	25	3 $\frac{9}{16}$	3 $\frac{1}{16}$	4 $\frac{11}{16}$	11 $\frac{1}{16}$	10 $\frac{5}{16}$	2 $\frac{1}{2}$	3 $\frac{7}{16}$	
$\frac{1}{8}$	23	7	35	3 $\frac{5}{8}$	3 $\frac{1}{16}$	4 $\frac{11}{16}$	11 $\frac{1}{16}$	10 $\frac{1}{4}$	2 $\frac{9}{16}$	3 $\frac{1}{2}$	
$\frac{3}{16}$	23	22	42	3 $\frac{11}{16}$	3 $\frac{1}{16}$	4 $\frac{3}{4}$	11	10 $\frac{1}{4}$	2 $\frac{9}{16}$	3 $\frac{1}{2}$	
$\frac{1}{4}$	23	37	46	3 $\frac{11}{16}$	3 $\frac{1}{8}$	4 $\frac{13}{16}$	11	10 $\frac{3}{16}$	2 $\frac{5}{8}$	3 $\frac{9}{16}$	
$\frac{5}{16}$	23	52	46	3 $\frac{3}{4}$	3 $\frac{1}{8}$	4 $\frac{7}{8}$	11	10 $\frac{3}{16}$	2 $\frac{5}{8}$	3 $\frac{9}{16}$	
$\frac{3}{8}$	24	7	42	3 $\frac{13}{16}$	3 $\frac{3}{16}$	4 $\frac{7}{8}$	10 $\frac{15}{16}$	10 $\frac{1}{8}$	2 $\frac{11}{16}$	3 $\frac{5}{8}$	
$\frac{7}{16}$	24	22	35	3 $\frac{7}{8}$	3 $\frac{3}{16}$	4 $\frac{15}{16}$	10 $\frac{15}{16}$	10 $\frac{1}{8}$	2 $\frac{11}{16}$	3 $\frac{11}{16}$	
5 $\frac{1}{2}$	24	37	25	3 $\frac{7}{8}$	3 $\frac{3}{16}$	5	10 $\frac{15}{16}$	10 $\frac{1}{16}$	2 $\frac{3}{4}$	3 $\frac{11}{16}$	
$\frac{9}{16}$	24	52	11	3 $\frac{15}{16}$	3 $\frac{1}{4}$	5 $\frac{1}{16}$	10 $\frac{7}{8}$	10 $\frac{1}{16}$	2 $\frac{3}{4}$	3 $\frac{3}{4}$	
$\frac{5}{8}$	25	6	53	4	3 $\frac{1}{4}$	5 $\frac{1}{16}$	10 $\frac{7}{8}$	10	2 $\frac{13}{16}$	3 $\frac{3}{4}$	
$\frac{11}{16}$	25	21	32	4	3 $\frac{5}{16}$	5 $\frac{1}{8}$	10 $\frac{13}{16}$	9 $\frac{15}{16}$	2 $\frac{13}{16}$	3 $\frac{13}{16}$	
$\frac{3}{4}$	25	36	8	4 $\frac{1}{16}$	3 $\frac{5}{16}$	5 $\frac{3}{16}$	10 $\frac{13}{16}$	9 $\frac{15}{16}$	2 $\frac{7}{8}$	3 $\frac{7}{8}$	
$\frac{13}{16}$	25	50	40	4 $\frac{1}{8}$	3 $\frac{5}{16}$	5 $\frac{1}{4}$	10 $\frac{13}{16}$	9 $\frac{7}{8}$	2 $\frac{7}{8}$	3 $\frac{7}{8}$	
$\frac{7}{8}$	26	5	8	4 $\frac{1}{8}$	3 $\frac{3}{8}$	5 $\frac{1}{4}$	10 $\frac{3}{4}$	9 $\frac{7}{8}$	2 $\frac{15}{16}$	3 $\frac{15}{16}$	
$\frac{15}{16}$	26	19	33	4 $\frac{3}{16}$	3 $\frac{3}{8}$	5 $\frac{5}{16}$	10 $\frac{3}{4}$	9 $\frac{13}{16}$	2 $\frac{15}{16}$	3 $\frac{15}{16}$	
6	26	33	54	4 $\frac{1}{4}$	3 $\frac{3}{8}$	5 $\frac{3}{8}$	10 $\frac{3}{4}$	9 $\frac{13}{16}$	3	4	
$\frac{1}{16}$	26	48	12	4 $\frac{5}{16}$	3 $\frac{7}{16}$	5 $\frac{7}{16}$	10 $\frac{11}{16}$	9 $\frac{3}{4}$	3	4 $\frac{1}{16}$	
$\frac{1}{8}$	27	2	26	4 $\frac{5}{16}$	3 $\frac{7}{16}$	5 $\frac{7}{16}$	10 $\frac{11}{16}$	9 $\frac{3}{4}$	3 $\frac{1}{16}$	4 $\frac{1}{16}$	
$\frac{3}{16}$	27	16	36	4 $\frac{3}{8}$	3 $\frac{7}{16}$	5 $\frac{1}{2}$	10 $\frac{11}{16}$	9 $\frac{11}{16}$	3 $\frac{1}{16}$	4 $\frac{1}{8}$	
$\frac{1}{4}$	27	30	43	4 $\frac{7}{16}$	3 $\frac{1}{2}$	5 $\frac{9}{16}$	10 $\frac{5}{8}$	9 $\frac{11}{16}$	3 $\frac{1}{8}$	4 $\frac{1}{8}$	
$\frac{5}{16}$	27	44	46	4 $\frac{7}{16}$	3 $\frac{1}{2}$	5 $\frac{9}{16}$	10 $\frac{5}{8}$	9 $\frac{5}{8}$	3 $\frac{1}{8}$	4 $\frac{3}{16}$	
$\frac{3}{8}$	27	58	46	4 $\frac{1}{2}$	3 $\frac{1}{2}$	5 $\frac{5}{8}$	10 $\frac{5}{8}$	9 $\frac{5}{8}$	3 $\frac{3}{16}$	4 $\frac{1}{4}$	
$\frac{7}{16}$	28	12	42	4 $\frac{9}{16}$	3 $\frac{9}{16}$	5 $\frac{11}{16}$	10 $\frac{9}{16}$	9 $\frac{9}{16}$	3 $\frac{9}{16}$	4 $\frac{1}{4}$	
6 $\frac{1}{2}$	28	26	35	4 $\frac{5}{8}$	3 $\frac{9}{16}$	5 $\frac{11}{16}$	10 $\frac{9}{16}$	9 $\frac{1}{2}$	3 $\frac{1}{4}$	4 $\frac{5}{16}$	
$\frac{9}{16}$	28	40	23	4 $\frac{5}{8}$	3 $\frac{9}{16}$	5 $\frac{3}{4}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	3 $\frac{1}{4}$	4 $\frac{5}{16}$	
$\frac{5}{8}$	28	54	9	4 $\frac{11}{16}$	3 $\frac{9}{16}$	5 $\frac{13}{16}$	10 $\frac{1}{2}$	9 $\frac{7}{16}$	3 $\frac{5}{16}$	4 $\frac{3}{8}$	
$\frac{11}{16}$	29	7	50	4 $\frac{3}{4}$	3 $\frac{5}{8}$	5 $\frac{13}{16}$	10 $\frac{1}{2}$	9 $\frac{7}{16}$	3 $\frac{5}{16}$	4 $\frac{3}{8}$	
$\frac{3}{4}$	29	21	28	4 $\frac{3}{4}$	3 $\frac{5}{8}$	5 $\frac{7}{8}$	10 $\frac{7}{16}$	9 $\frac{3}{8}$	3 $\frac{5}{16}$	4 $\frac{7}{16}$	
$\frac{13}{16}$	29	35	2	4 $\frac{13}{16}$	3 $\frac{5}{8}$	5 $\frac{15}{16}$	10 $\frac{7}{16}$	9 $\frac{3}{8}$	3 $\frac{3}{8}$	4 $\frac{1}{2}$	
$\frac{7}{8}$	29	48	33	4 $\frac{7}{8}$	3 $\frac{11}{16}$	5 $\frac{15}{16}$	10 $\frac{7}{16}$	9 $\frac{5}{16}$	3 $\frac{3}{8}$	4 $\frac{1}{2}$	
$\frac{15}{16}$	30	2	0	4 $\frac{7}{8}$	3 $\frac{11}{16}$	6	10 $\frac{3}{8}$	9 $\frac{5}{16}$	3 $\frac{7}{16}$	4 $\frac{9}{16}$	

a	Angle A			b	c	d	e	f	g	h	
7	D 30	M 15	S 23	4 $\frac{13}{16}$	3 $\frac{11}{16}$	6 $\frac{1}{16}$	10 $\frac{3}{8}$	9 $\frac{1}{4}$	3 $\frac{7}{16}$	4 $\frac{9}{16}$	
$\frac{1}{16}$	30	28	43	5	3 $\frac{11}{16}$	6 $\frac{1}{16}$	10 $\frac{5}{16}$	9 $\frac{1}{4}$	3 $\frac{1}{2}$	4 $\frac{5}{8}$	
$\frac{1}{8}$	30	41	59	5 $\frac{1}{16}$	3 $\frac{3}{4}$	6 $\frac{1}{8}$	10 $\frac{5}{16}$	9 $\frac{3}{16}$	3 $\frac{1}{2}$	4 $\frac{5}{8}$	
$\frac{3}{16}$	30	55	11	5 $\frac{1}{16}$	3 $\frac{3}{4}$	6 $\frac{3}{16}$	10 $\frac{5}{16}$	9 $\frac{1}{8}$	3 $\frac{9}{16}$	4 $\frac{11}{16}$	
$\frac{1}{4}$	31	8	20	5 $\frac{1}{8}$	3 $\frac{3}{4}$	6 $\frac{3}{16}$	10 $\frac{1}{4}$	9 $\frac{1}{8}$	3 $\frac{9}{16}$	4 $\frac{11}{16}$	
$\frac{5}{16}$	31	21	26	5 $\frac{3}{16}$	3 $\frac{3}{4}$	6 $\frac{1}{4}$	10 $\frac{1}{4}$	9 $\frac{1}{16}$	3 $\frac{5}{8}$	4 $\frac{3}{4}$	
$\frac{3}{8}$	31	34	27	5 $\frac{3}{16}$	3 $\frac{13}{16}$	6 $\frac{5}{16}$	10 $\frac{1}{4}$	9 $\frac{1}{16}$	3 $\frac{5}{8}$	4 $\frac{13}{16}$	
$\frac{7}{16}$	31	47	25	5 $\frac{1}{4}$	3 $\frac{13}{16}$	6 $\frac{5}{16}$	10 $\frac{3}{16}$	9	3 $\frac{11}{16}$	4 $\frac{13}{16}$	
7 $\frac{1}{2}$	32	0	19	5 $\frac{5}{16}$	3 $\frac{13}{16}$	6 $\frac{3}{8}$	10 $\frac{3}{16}$	9	3 $\frac{11}{16}$	4 $\frac{7}{8}$	
$\frac{9}{16}$	32	13	10	5 $\frac{3}{8}$	3 $\frac{13}{16}$	6 $\frac{3}{8}$	10 $\frac{1}{8}$	8 $\frac{15}{16}$	3 $\frac{3}{4}$	4 $\frac{7}{8}$	
$\frac{5}{8}$	32	25	57	5 $\frac{3}{8}$	3 $\frac{13}{16}$	6 $\frac{7}{16}$	10 $\frac{1}{8}$	8 $\frac{15}{16}$	3 $\frac{3}{4}$	4 $\frac{15}{16}$	
$\frac{11}{16}$	32	38	41	5 $\frac{7}{16}$	3 $\frac{7}{8}$	6 $\frac{1}{2}$	10 $\frac{1}{8}$	8 $\frac{7}{8}$	3 $\frac{13}{16}$	4 $\frac{15}{16}$	
$\frac{3}{4}$	32	51	21	5 $\frac{1}{2}$	3 $\frac{7}{8}$	6 $\frac{1}{2}$	10 $\frac{1}{16}$	8 $\frac{7}{8}$	3 $\frac{13}{16}$	5	
$\frac{13}{16}$	33	3	57	5 $\frac{1}{2}$	3 $\frac{7}{8}$	6 $\frac{9}{16}$	10 $\frac{1}{16}$	8 $\frac{13}{16}$	3 $\frac{7}{8}$	5	
$\frac{7}{8}$	33	16	30	5 $\frac{9}{16}$	3 $\frac{7}{8}$	6 $\frac{9}{16}$	10 $\frac{1}{16}$	8 $\frac{13}{16}$	3 $\frac{7}{8}$	5 $\frac{1}{16}$	
$\frac{15}{16}$	33	28	59	5 $\frac{5}{8}$	3 $\frac{7}{8}$	6 $\frac{5}{8}$	10	8 $\frac{3}{4}$	3 $\frac{7}{8}$	5 $\frac{1}{16}$	
8	33	41	24	5 $\frac{11}{16}$	3 $\frac{15}{16}$	6 $\frac{5}{8}$	10	8 $\frac{3}{4}$	3 $\frac{15}{16}$	5 $\frac{1}{8}$	
$\frac{1}{16}$	33	53	46	5 $\frac{11}{16}$	3 $\frac{15}{16}$	6 $\frac{11}{16}$	9 $\frac{15}{16}$	8 $\frac{11}{16}$	3 $\frac{15}{16}$	5 $\frac{1}{8}$	
$\frac{1}{8}$	34	6	5	5 $\frac{3}{4}$	3 $\frac{15}{16}$	6 $\frac{3}{4}$	9 $\frac{15}{16}$	8 $\frac{11}{16}$	4	5 $\frac{3}{16}$	
$\frac{3}{16}$	34	18	19	5 $\frac{13}{16}$	3 $\frac{15}{16}$	6 $\frac{3}{4}$	9 $\frac{7}{8}$	8 $\frac{5}{8}$	4	5 $\frac{3}{16}$	
$\frac{1}{4}$	34	30	31	5 $\frac{13}{16}$	3 $\frac{15}{16}$	6 $\frac{13}{16}$	9 $\frac{7}{8}$	8 $\frac{5}{8}$	4 $\frac{1}{16}$	5 $\frac{1}{4}$	
$\frac{5}{16}$	34	42	38	5 $\frac{7}{8}$	4	6 $\frac{13}{16}$	9 $\frac{7}{8}$	8 $\frac{9}{16}$	4 $\frac{1}{16}$	5 $\frac{1}{4}$	
$\frac{3}{8}$	34	54	43	5 $\frac{15}{16}$	4	6 $\frac{7}{8}$	9 $\frac{13}{16}$	8 $\frac{9}{16}$	4 $\frac{1}{8}$	5 $\frac{5}{16}$	
$\frac{7}{16}$	35	6	43	5 $\frac{15}{16}$	4	6 $\frac{7}{8}$	9 $\frac{13}{16}$	8 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{5}{16}$	
8 $\frac{1}{2}$	35	18	40	6	4	6 $\frac{15}{16}$	9 $\frac{13}{16}$	8 $\frac{1}{2}$	4 $\frac{3}{16}$	5 $\frac{3}{8}$	
$\frac{9}{16}$	35	30	34	6 $\frac{1}{16}$	4	7	9 $\frac{3}{4}$	8 $\frac{7}{16}$	4 $\frac{3}{16}$	5 $\frac{3}{8}$	
$\frac{5}{8}$	35	42	24	6 $\frac{1}{8}$	4	7	9 $\frac{3}{4}$	8 $\frac{7}{16}$	4 $\frac{1}{4}$	5 $\frac{7}{16}$	
$\frac{11}{16}$	35	54	11	6 $\frac{1}{8}$	4	7 $\frac{1}{16}$	9 $\frac{3}{4}$	8 $\frac{3}{8}$	4 $\frac{1}{4}$	5 $\frac{7}{16}$	
$\frac{3}{4}$	36	5	54	6 $\frac{3}{16}$	4 $\frac{1}{16}$	7 $\frac{1}{16}$	9 $\frac{11}{16}$	8 $\frac{3}{8}$	4 $\frac{1}{4}$	5 $\frac{1}{2}$	
$\frac{13}{16}$	36	17	33	6 $\frac{1}{4}$	4 $\frac{1}{16}$	7 $\frac{1}{8}$	9 $\frac{11}{16}$	8 $\frac{5}{16}$	4 $\frac{5}{16}$	5 $\frac{1}{2}$	
$\frac{7}{8}$	36	29	10	6 $\frac{1}{4}$	4 $\frac{1}{16}$	7 $\frac{1}{8}$	9 $\frac{5}{8}$	8 $\frac{5}{16}$	4 $\frac{5}{16}$	5 $\frac{9}{16}$	
$\frac{15}{16}$	36	40	42	6 $\frac{5}{16}$	4 $\frac{1}{16}$	7 $\frac{3}{16}$	9 $\frac{5}{8}$	8 $\frac{1}{4}$	4 $\frac{3}{8}$	5 $\frac{9}{16}$	

DROP OF HIP = X

ROOF BEVEL	WIDTH OF FLANGE																		
	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	4	4 1/8	4 1/4	4 3/8	4 1/2	4 5/8	4 3/4	4 7/8	5	5 1/8	5 1/4
3	1/4	1/4	5/16	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16
1/16	1/4	1/4	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	7/16
1/8	1/4	5/16	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	7/16	1/2
3/16	1/4	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2
1/4	5/16	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2
5/16	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2
3/8	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2
7/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2
3 1/2	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2
9/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	9/16
5/8	5/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	9/16	9/16
11/16	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	9/16	9/16
3/4	5/16	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	9/16	9/16	9/16
13/16	5/16	5/16	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16
7/8	5/16	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16
15/16	5/16	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	9/16
4	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8
1/16	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8
1/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8	5/8
3/16	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8
1/4	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8	5/8	5/8
5/16	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	5/8
3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	5/8
7/16	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16
4 1/2	3/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16
9/16	3/8	3/8	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16
5/8	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16
11/16	3/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16	11/16
3/4	3/8	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	11/16
13/16	7/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16	11/16	11/16
7/8	7/16	7/16	7/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16	11/16	3/4
15/16	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	11/16	3/4

DROP OF HIP = X

[illegible]

DROP OF HIP = X

ROOF BEVEL	WIDTH OF FLANGE																			
	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	4	4 1/8	4 1/4	4 3/8	4 1/2	4 5/8	4 3/4	4 7/8	5	5 1/8	5 1/4	
5	7/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	
	1/16	7/16	7/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	11/16	3/4	3/4	
	1/8	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	
	3/16	7/16	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	11/16	3/4	3/4	
	1/4	7/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	3/4	
	5/16	7/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	
	3/8	7/16	1/2	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	
	7/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	
	5 1/2	7/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16
9/16	7/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	3/4	13/16	13/16	
5/8	1/2	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	
11/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	
3/4	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	13/16	
13/16	1/2	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	
7/8	1/2	1/2	9/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	
15/16	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	
6	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	
	1/16	1/2	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8
	1/8	1/2	1/2	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	
	3/16	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	
	1/4	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	15/16	
	5/16	1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	
	3/8	1/2	9/16	9/16	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	
	7/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	15/16	15/16	
	6 1/2	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	7/8	15/16	15/16
9/16	9/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	7/8	15/16	15/16	
5/8	9/16	9/16	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	
11/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	15/16	
3/4	9/16	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	
13/16	9/16	9/16	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	
7/8	9/16	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	15/16	1	
15/16	9/16	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	

DROP OF HIP = X

ROOF BEVEL	WIDTH OF FLANGE																			
	5 ³ / ₈	5 ¹ / ₂	5 ⁵ / ₈	5 ³ / ₄	5 ⁷ / ₈	6	6 ¹ / ₈	6 ¹ / ₄	6 ³ / ₈	6 ¹ / ₂	6 ⁵ / ₈	6 ³ / ₄	6 ⁷ / ₈	7	7 ¹ / ₈	7 ¹ / ₄	7 ³ / ₈	7 ¹ / ₂	7 ⁵ / ₈	7 ³ / ₄
5	3 ⁴ / ₄	3 ⁴ / ₄	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈
1 ¹ / ₁₆	3 ⁴ / ₄	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈
1 ¹ / ₈	3 ⁴ / ₄	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈
3 ¹⁶ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈
1 ⁴ / ₄	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈
5 ¹⁶ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆
3 ⁸ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆
7 ¹⁶ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆
5 ¹ / ₂	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆
9 ¹⁶ / ₁₆	1 ³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆
5 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄
1 ¹¹ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄
3 ⁴ / ₄	7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄
1 ¹³ / ₁₆	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄
7 ⁸ / ₈	7 ⁸ / ₈	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄
1 ¹⁵ / ₁₆	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄
6	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆
1 ¹ / ₁₆	7 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆
1 ¹ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆
3 ¹⁶ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆
1 ⁴ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆
5 ¹⁶ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈
3 ⁸ / ₈	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈
7 ¹⁶ / ₁₆	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈
6 ¹ / ₂	1 ⁵ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈
9 ¹⁶ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈
5 ⁸ / ₈	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ⁷ / ₁₆
1 ¹¹ / ₁₆	1	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ⁷ / ₁₆
3 ⁴ / ₄	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ⁷ / ₁₆	1 ⁷ / ₁₆
1 ¹³ / ₁₆	1	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ⁷ / ₁₆	1 ⁷ / ₁₆
7 ⁸ / ₈	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ⁷ / ₁₆	1 ⁷ / ₁₆	1 ⁷ / ₁₆
1 ¹⁵ / ₁₆	1	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₈	1 ¹ / ₈	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₄	1 ⁵ / ₁₆	1 ⁵ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ⁷ / ₁₆	1 ⁷ / ₁₆	1 ⁷ / ₁₆

DROP OF HIP = X

ROOF BEVEL	WIDTH OF FLANGE																		
	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	4	4 1/8	4 1/4	4 3/8	4 1/2	4 5/8	4 3/4	4 7/8	5	5 1/8	5 1/4
7	9/16	5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1
1/16	9/16	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1
1/8	9/16	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	15/16	1	1
3/16	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1
1/4	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16
5/16	9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16
3/8	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1	1 1/16
7/16	5/8	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1	1 1/16
7 1/2	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16
9/16	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16
5/8	5/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1	1 1/16	1 1/16
11/16	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/16
3/4	5/8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16	1 1/16
13/16	5/8	5/8	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8
7/8	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1	1 1/16	1 1/16	1 1/8
15/16	5/8	11/16	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/16	1 1/8
8	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8
1/16	5/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8
1/8	5/8	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1	1 1/16	1 1/16	1 1/8	1 1/8
3/16	5/8	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/16	1 1/8	1 1/8
1/4	5/8	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/16	1 1/8	1 1/8
5/16	11/16	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 1/8
3/8	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16
7/16	11/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16
8 1/2	11/16	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16
9/16	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 1/8	1 3/16
5/8	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16	1 3/16
11/16	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16	1 3/16
3/4	11/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16	1 3/16
13/16	11/16	3/4	3/4	3/4	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 1/8	1 3/16	1 3/16
7/8	11/16	3/4	3/4	13/16	13/16	13/16	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16	1 3/16	1 3/16
15/16	11/16	3/4	3/4	13/16	13/16	7/8	7/8	7/8	15/16	15/16	1	1	1 1/16	1 1/16	1 1/8	1 1/8	1 3/16	1 3/16	1 1/4

DROP OF HIP=X

[illegible]



TH238
W5

210633

Williams

UNIVERSITY OF CALIFORNIA LIBRARY
BERKELEY

THIS BOOK IS DUE ON THE LAST DATE
STAMPED BELOW

Books not returned on time are subject to a fine of
50c per volume after the third day overdue, increasing
to \$1.00 per volume after the sixth day. Books not in
demand may be renewed if application is made before
expiration of loan period.

MAR 6 1918
SENT ON ILL

MAY 03 1994

U. C. BERKELEY

